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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,701	02/14/2001	Rong Pan	STFD.009PA	6340

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EXAMINER	
NGUYEN, STEVEN H D	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 05/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/783,701	PAN ET AL.	
	Examiner	Art Unit	
	Steven HD Nguyen	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (USP 6606301) in view of Bellaton (USP 6473425).

Regarding claims 1 and 12-13, Muller discloses a method for managing a queue (Fig 24, Ref 2400) susceptible to unbalanced bandwidth allocation, comprising in response, mitigating unbalanced bandwidth allocation due to congestion-problem flows by reducing the processing priority of at least one of said at least one selected packet, and the recently-received packet (Col. 105, lines 50 to col. 106, lines 17, lines 41-50, col. 108, lines 8-20, col. 109. lines 13-44, col. 111, lines 35-49, Col. 112, lines 2-6, Processing priority reads on discard the packet). However, Muller fails to disclose detecting a matching flow identification between a recently-received

incoming packet with at least one packet selected from a set of outgoing packets in order to determine which packet to be dropped. In the same field of endeavor, Bellaton discloses a server includes a processor (Fig 2, ref 28 for executing the software) for detecting a matching flow identification between a recently-received incoming packet with at least one packet selected from a set of outgoing packets in order to determine which packet to be dropped (Fig 11 discloses matching the flow ID of new packet with a stored packet and deciding which packet to be dropped at the node, "processing priority" reads on discarding or not).

Since, Muller suggests a method and system that matching a flow identifier of new packet with the stored flow ID. Therefore, it would have been obvious to one of ordinary skill in the art to apply a method and system for matching the flow id of the new packet with the stored packet in the queue in order to determine which packet should be dropped as disclosed by Bellaton into the teaching of Muller. The motivation would have been to provide a fair share of the bandwidth between the flows , sessions, connections and prevent congestion.

Regarding claim 2, Bellaton discloses detecting the matching flow identification includes comparing the flow identification of the recently-received incoming packet with the flow identification of said at least one packet selected from a set of outgoing packets, and wherein step of detecting the matching flow identification is responsive to the comparison (Fig 11, Ref 130-134 wherein Fig 11, Ref 134 is used to compare the flow id of the new and stored packet).

Regarding claim 3, Muller discloses quantifying congestion-problem flows, and assigning a processing priority to the quantified congestion-problem flows as a function of the quantification (Col. 108, lines 8-20, Col. 111, lines 35-50 and col. 112, lines 2-6, discarding or dropping the packet based on random early function).

Regarding claim 4, Muller discloses the processing priority includes dropping more candidate packets as the number of unresponsive flows increases, and wherein mitigating unbalanced bandwidth allocation and reducing the processing priority includes using a stateless FIFO queue, and further including quantifying unresponsive flows, and dropping more candidate packets as the number of unresponsive flows increases (Col. 108, lines 8-20, Col. 111, lines 35-50 and col. 112, lines 2-6, discarding or dropping the packets of the un-response flows from the queue based on random early function).

Regarding claim 5, Muller discloses selecting said at least one packet from the set of outgoing packets as a function of a random probability (Col. 108, lines 8-20, Col. 9, lines 13-44, Col. 111, lines 35-50 and col. 112, lines 2-6).

Regarding claim 6, Muller discloses said at least one packet includes a plurality of packets (Col. 111, lines 35-50).

Regarding claim 7, Muller discloses reducing the processing priority includes dropping said at least one selected packet (col. 112, lines 2-6).

Regarding claim 8, Muller discloses reducing the processing priority includes dropping the recently-received packet (col. 112, lines 2-6).

Regarding claim 9, Muller discloses selecting said at least one packet from the set of outgoing packets as a function of a probability corresponding to the location of the selected packet in the queue (Col. 111, lines 35-50 and Fig 24 the location of the packet within the region of probability indicator for discarding).

Regarding claim 10, Muller discloses including selecting said at least one packet from the set of outgoing packets as a function of a probability corresponding to a misbehaving flow (Col. 111, lines 35-50 and Fig 24).

Regarding claim 11, Muller discloses a method for managing a queue susceptible to unbalanced bandwidth allocation comprising selecting a packet subset from the set of outgoing packets as a function of a probability corresponding to at least one of a misbehaving flow (Col. 111, lines 35-50 and Fig 24), and the location of the selected packet in the queue (Col. 111, lines 35-50 and Fig 24 the location of the packet within the region of probability indicator for discarding); and in response, mitigating unbalanced bandwidth allocation due to congestion-problem flows by dropping the processing priority of at least one of the selected packet subset, and the recently-received packet (Col. 105, lines 50 to col. 106, lines 17, lines 41-50, col. 108, lines 8-20, col. 109. lines 13-44, col. 111, lines 35-49, Col. 112, lines 2-6, Processing priority reads on discard the packet). However, Muller fails to disclose comparing a recently-received incoming packet with the selected packet subset and detecting therefrom a matching flow identification in order to determine which packet to be dropped. In the same field of endeavor, Bellaton discloses a server includes a processor (Fig 2, ref 28 for executing the software) for comparing a recently-received incoming packet with the selected packet subset and detecting therefrom a matching flow identification in order to determine which packet to be dropped (Fig 11 discloses matching the flow ID of new packet with a stored packet and deciding which packet to be dropped at the node, "processing priority" reads on discarding or not).

Since, Muller suggests a method and system that matching a flow identifier of new packet with the stored flow ID. Therefore, it would have been obvious to one of ordinary skill in

the art to apply a method and system for comparing the flow id of the new packet with the stored packet in the queue for matching flow ID in order to determine which packet should be dropped as disclosed by Bellaton into the teaching of Muller. The motivation would have been to provide a fair share of the bandwidth between the flows , sessions, connections and prevent congestion.

Regarding claim 14, Muller discloses adapted to prioritize the flow of packets in a queue according to identification codes associated with the respective packets (Col. 106, lines 30-40 and Col. 111, lines 10-34, the flow is prioritized based on priority code in the packet such as protocol type, applications such as file transfer, voice etc).

Regarding claim 15, Muller discloses including selecting said at least one packet from the set of outgoing packets as a function of a random probability (Col. 108, lines 8-20, Col. 9, lines 13-44, Col. 111, lines 35-50 and col. 112, lines 2-6).

Regarding claim 16, Muller discloses including selecting said at least one packet from the set of outgoing packets as a function of a probability corresponding to the location of said at least one selected packet in the queue (Col. 111, lines 35-50 and Fig 24 the location of the packet within the region of probability indicator for discarding).

Regarding claim 17, Muller discloses including selecting said at least one packet from the set of outgoing packets as a function of a probability corresponding to a misbehaving flow (Col. 111, lines 35-50 and Fig 24).

Regarding claim 18, Muller inherent discloses mitigating unbalanced bandwidth allocation does not include maintaining state information (RED does not store the stored information above dropping the packets).

Regarding claim 19, Muller and Bellaton inherently discloses another communicatively-coupled server that is not adapted to detect a matching flow identification between a recently-received incoming packet with at least one packet selected from a set of outgoing packets, and, in response to the matching flow identification detection, to mitigate unbalanced bandwidth allocation by reducing the processing priority of at least one of said at least one selected packet and the recently-received packet (Sources that generates does not includes RED in Muller and Bellaton performs this function on a server, not on the source and destination) .

Regarding claim 20, Muller discloses a system for managing a queue susceptible to unbalanced bandwidth allocation, comprising in response, mitigate unbalanced bandwidth allocation due to congestion-problem flows without maintaining state information and by reducing the processing priority of at least one of said at least one selected packet, and the recently-received packet (Col. 105, lines 50 to col. 106, lines 17, lines 41-50, col. 108, lines 8-20, col. 109. lines 13-44, col. 111, lines 35-49, Col. 112, lines 2-6, Processing priority reads on discard the packet), the packet being selected as a function of a probability corresponding to a misbehaving flow (Col. 111, lines 35-50 and Fig 24) . However, Muller fails to disclose a server including a CPU arrangement programmed and arranged to compare a recently-received incoming packet with at least one packet selected from a set of outgoing packets for matching flow ID. In the same field of endeavor, Bellaton discloses a server includes a processor (Fig 2, ref 28 for executing the software) for comparing a recently-received incoming packet with the selected packet subset and detecting therefrom a matching flow identification in order to determine which packet to be dropped (Fig 11 discloses matching the flow ID of new packet

with a stored packet and deciding which packet to be dropped at the node, "processing priority" reads on discarding or not).

Since, Muller suggests a method and system that matching a flow identifier of new packet with the stored flow ID. Therefore, it would have been obvious to one of ordinary skill in the art to apply a method and system for comparing the flow id of the new packet with the stored packet in the queue for matching flow ID in order to determine which packet should be dropped as disclosed by Bellaton into the teaching of Muller. The motivation would have been to provide a fair share of the bandwidth between the flows , sessions, connections and prevent congestion.

Regarding claim 21, Muller discloses choosing to drop more candidate packets as the number of unresponsive flows increases (Col. 108, lines 8-20, Col. 111, lines 35-50 and col. 112, lines 2-6, discarding or dropping the packets of the un-response flows from the queue based on random early function).

Regarding claim 22, Muller discloses a system for managing a queue in a flow-identification arrangement susceptible to unbalanced bandwidth allocation, comprising a stateless FIFO queue (Fig 24) configured and arranged to receive packets having associated flow identification information; the packet being selected as a function of at least one of a random probability and the location of the selected packet in the queue (Col. 111, lines 35-50 and Fig 24 the location of the packet within the region of probability indicator for discarding); and in response to the matching flow identification detection, mitigating unbalanced bandwidth allocation without maintaining state information for the FIFO queue and by reducing the processing priority of said at least one selected packet and the recently-received packet (Col. 105, lines 50 to col. 106, lines 17, lines 41-50, col. 108, lines 8-20, col. 109. lines 13-44, col.

111, lines 35-49, Col. 112, lines 2-6, Processing priority reads on discard the packet; Red does not maintain the state information of queue). However, Muller fails to disclose a server including a CPU arrangement programmed and arranged to detect a matching flow identification between a recently-received incoming packet with at least one packet selected from a set of outgoing packets. In the same field of endeavor, Bellaton discloses a server includes a processor (Fig 2, ref 28 for executing the software) for comparing a recently-received incoming packet with the selected packet subset and detecting therefrom a matching flow identification in order to determine which packet to be dropped (Fig 11 discloses matching the flow ID of new packet with a stored packet and deciding which packet to be dropped at the node, "processing priority" reads on discarding or not).

Since, Muller suggests a method and system that matching a flow identifier of new packet with the stored flow ID. Therefore, it would have been obvious to one of ordinary skill in the art to apply a method and system for comparing the flow id of the new packet with the stored packet in the queue for matching flow ID in order to determine which packet should be dropped as disclosed by Bellaton into the teaching of Muller. The motivation would have been to provide a fair share of the bandwidth between the flows, sessions, connections and prevent congestion.

Regarding claim 23, Muller discloses choosing to drop more candidate packets as the number of unresponsive flows increases (Col. 108, lines 8-20, Col. 111, lines 35-50 and col. 112, lines 2-6, discarding or dropping the packets of the un-response flows from the queue based on random early function).

Regarding claim 24, Muller discloses a method for managing a queue susceptible to unbalanced bandwidth allocation, comprising quantifying congestion-problem flows, and

assigning a processing priority to the quantified congestion-problem flows as a function of the quantification; and in response, mitigating unbalanced bandwidth allocation due to congestion-problem flows by reducing the processing priority of at least one of: said at least one selected packet, and the recently-received packet (Col. 105, lines 50 to col. 106, lines 17, lines 41-50, col. 108, lines 8-20, col. 109. lines 13-44, col. 111, lines 35-49, Col. 112, lines 2-6, Processing priority reads on discard the packet). However, Muller fails to disclose comparing a flow identification of a recently-received incoming packet with a flow identification of at least one packet selected from a set of outgoing packets; detecting, in response to the comparison, a matching flow identification between the recently-received incoming packet with said at least one packet selected from the set of outgoing packets. In the same field of endeavor, Bellaton discloses comparing a flow identification of a recently-received incoming packet with a flow identification of at least one packet selected from a set of outgoing packets; detecting, in response to the comparison, a matching flow identification between the recently-received incoming packet with said at least one packet selected from the set of outgoing packets (Fig 11 discloses matching the flow ID of new packet with a stored packet and deciding which packet to be dropped at the node, "processing priority" reads on discarding or not).

Since, Muller suggests a method and system that matching a flow identifier of new packet with the stored flow ID. Therefore, it would have been obvious to one of ordinary skill in the art to apply a method and system for comparing the flow id of the new packet with the stored packet in the queue for matching flow ID in order to determine which packet should be dropped as disclosed by Bellaton into the teaching of Muller. The motivation would have been to provide a fair share of the bandwidth between the flows , sessions, connections.

Regarding claim 25, Muller discloses the processing priority includes dropping more candidate packets as the number of unresponsive flows increases (col. 112, lines 2-6).

Regarding claim 26, Muller discloses including selecting said at least one packet from the set of outgoing packets as a function of a random probability (Col. 108, lines 8-20, Col. 9, lines 13-44, Col. 111, lines 35-50 and col. 112, lines 2-6).

Regarding claim 27, Muller discloses said at least one packet includes a plurality of packets (Col. 111, lines 35-50).

Response to Arguments

4. Applicant's arguments filed 3/7/06 have been fully considered but they are not persuasive.

In response to page 8, the applicant states that Bellaton fail to disclose a step of detecting a matching flow identification between a recently-received incoming packet with at least one packet selected from a set of outgoing packets in order to determine which packet to be dropped. In reply, Bellaton discloses a device for receiving a new packet and extracting the flow and iD information "flow identification" (Fig 11, ref 132), determined if the flow ID of the queued packets that scheduled for transmitting onto the network, matches a flow ID of new packet "detecting a matching flow ID of recently received packet "new packet just received into the device" and a set of outgoing packets "the packets stored in the buffer"; See Fig 11, ref 134. If detecting a match, the device determines which packet should be dropped "new packet" or "the stored packet", See Fig 11, Ref 138, 142 and 144. So, Bellaton discloses a step for detecting a

match flow identification between the recently received packet with the outgoing packets that stored in the buffer.

5. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

6. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

7. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art or the nature of the problem to be solved; See In re Rouffet, 149 F.3d 1350, 47, U.S.P.Q.2d 1453 (Fed Cir. 1998); *In re Fine*, 837

F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Muller discloses a method and system for reducing congestion by reducing a processing priority of at least one of recently received packet and stored packets. Bellaton discloses a method and system for reducing a congestion by detecting if flow ID of the new packet is equal with at least one of stored packet; if yes, then determining which one should be dropped. Muller suggest the use of matching a flow ID to identify if the flow already exist or not (See Fig 6A, 606, 608). Therefore, it would have been obvious to one of ordinary skill in the art to apply a method and system for comparing the flow id of the new packet with the stored packet in the queue for matching flow ID in order to determine which packet should be dropped as disclosed by Bellaton into the teaching of Muller. The motivation would have been to provide a fair share of the bandwidth between the flows, sessions, connections and prevent congestion that cause by a flow, session and connection.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

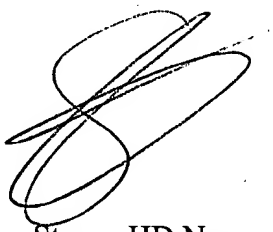
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (571) 272-3159. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steven HD Nguyen
Primary Examiner
Art Unit 2616
May 18, 2006